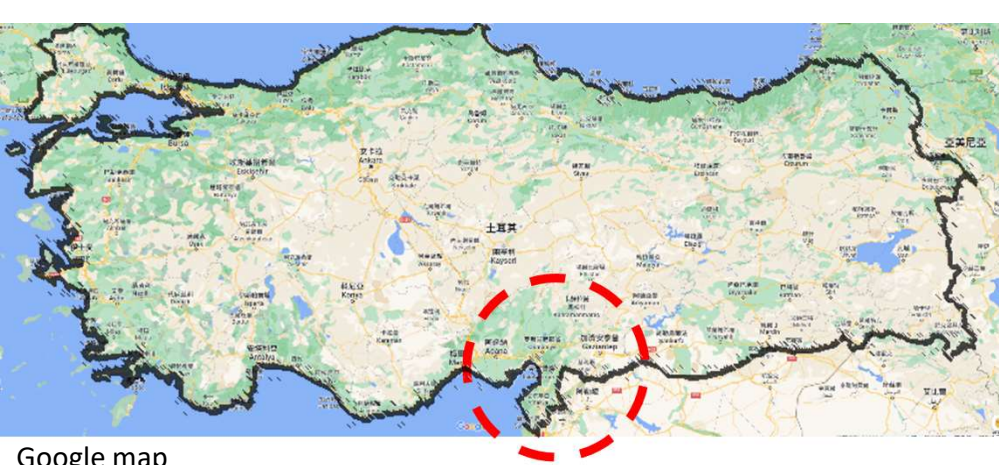


20230206土耳其地震
Antakya歷史街區建築震損概要

林裕鈞
2023.07.29



Google map



Google map

編號	地點	案例名稱	類型	第一主震推估 PGA (cm/s ²)			第二主震推估 PGA (cm/s ²)			Atakya 02/10 餘震推估水平 PGA (cm/s ²)
				NS	EW	UD	NS	EW	UD	
17-1	Antakya, Hatay	Antakya 歷史街區	歷史建築	450	400	300	20	25	10	390

TK3123

說明 沒有值
 Network TK
 Station 3123
 Instrument code HN
 Method Geophysical survey
 EC8 code B
 Epicentral distance [km] 134.2
 Azimuth 218.1
Horizontal PGA [cm/s²] 652.145
Horizontal PGV [cm/s] 188.472
Horizontal PGD [cm] 96.543
 Processing manual (Paolucci et al., 2011)
 Latitude 36.15973
 Longitude 36.21423

36.21423, 36.15973



TK3132

說明 沒有值
 Network TK
 Station 3132
 Instrument code HN
 Method Geophysical survey
 EC8 code B
 Epicentral distance [km] 134.2
 Azimuth 217.5
Horizontal PGA [cm/s²] 511.369
Horizontal PGV [cm/s] 67.447
Horizontal PGD [cm] 71.702
 Processing manual (Paolucci et al., 2011)
 Latitude 36.17159
 Longitude 36.20673

36.20672, 36.17159

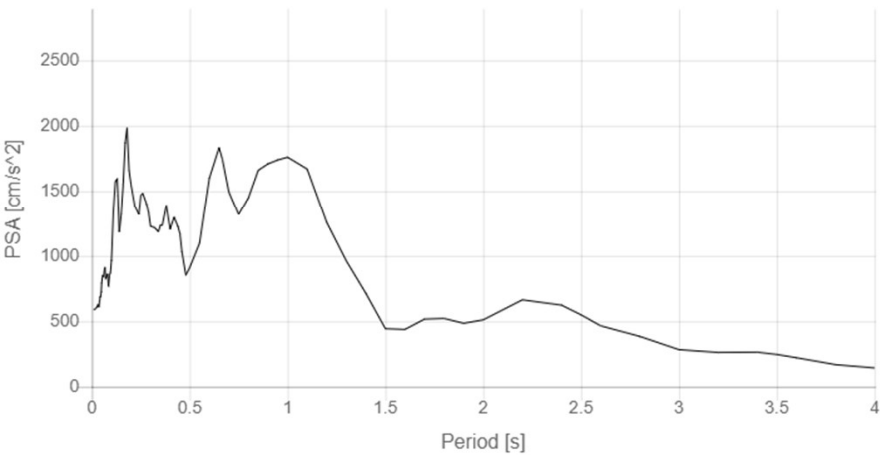
TK3131

說明 沒有值
 Network TK
 Station 3131
 Instrument code HN
 Method Geophysical survey
 EC8 code B
 Epicentral distance [km] 136.1
 Azimuth 217.3
Horizontal PGA [cm/s²] 363.634
Horizontal PGV [cm/s] 50.268
Horizontal PGD [cm] 64.325
 Processing manual (Paolucci et al., 2011)
 Latitude 36.16328
 Longitude 36.19121

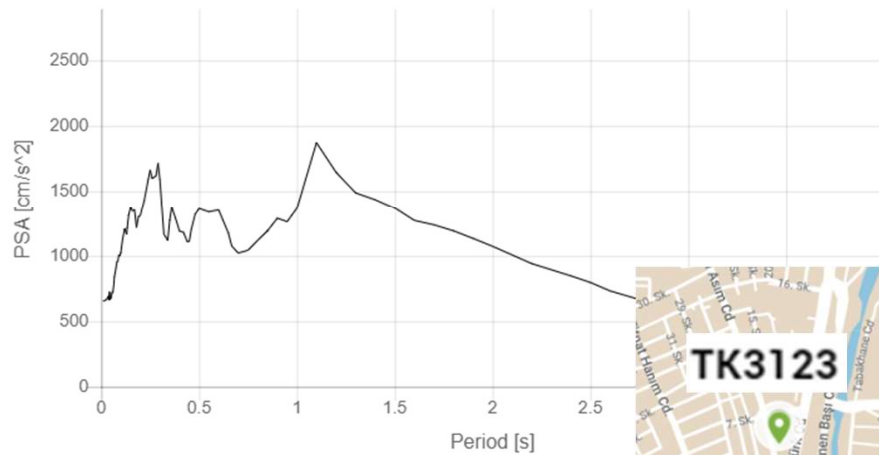
36.19121, 36.16328

Google map

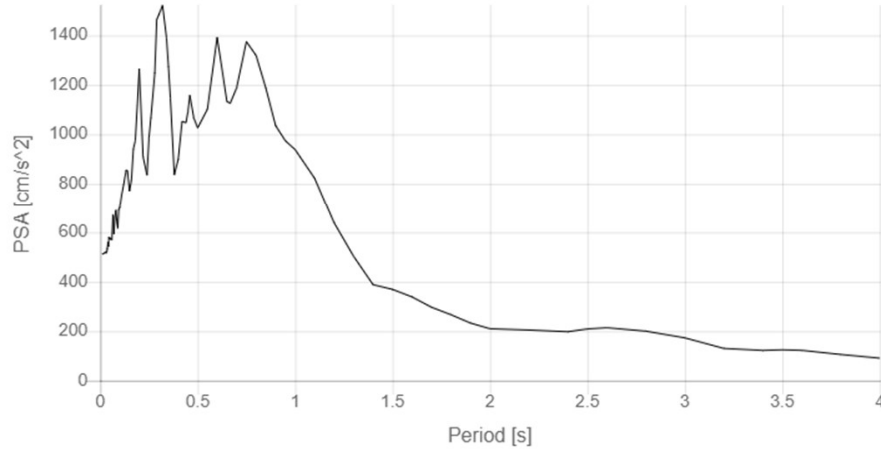
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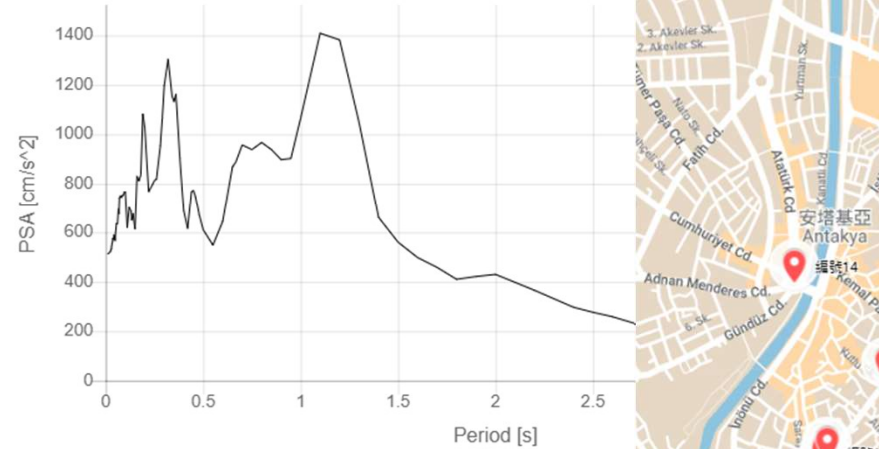
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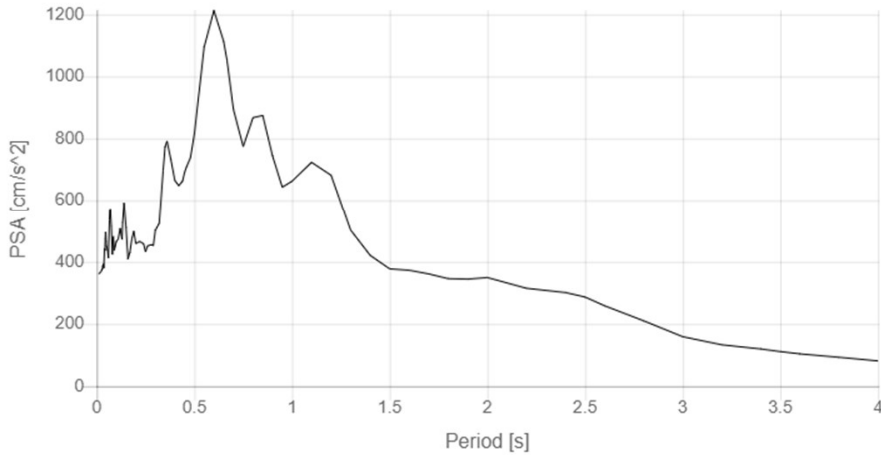
TK 3132 HNE INT-20230206_0000008



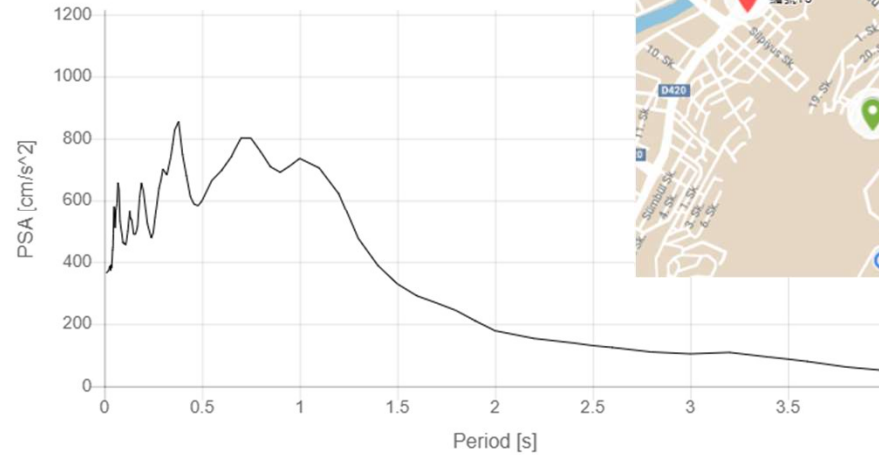
TK 3132 HNN INT-20230206_0000000



TK 3131 HNE INT-20230206_0000008



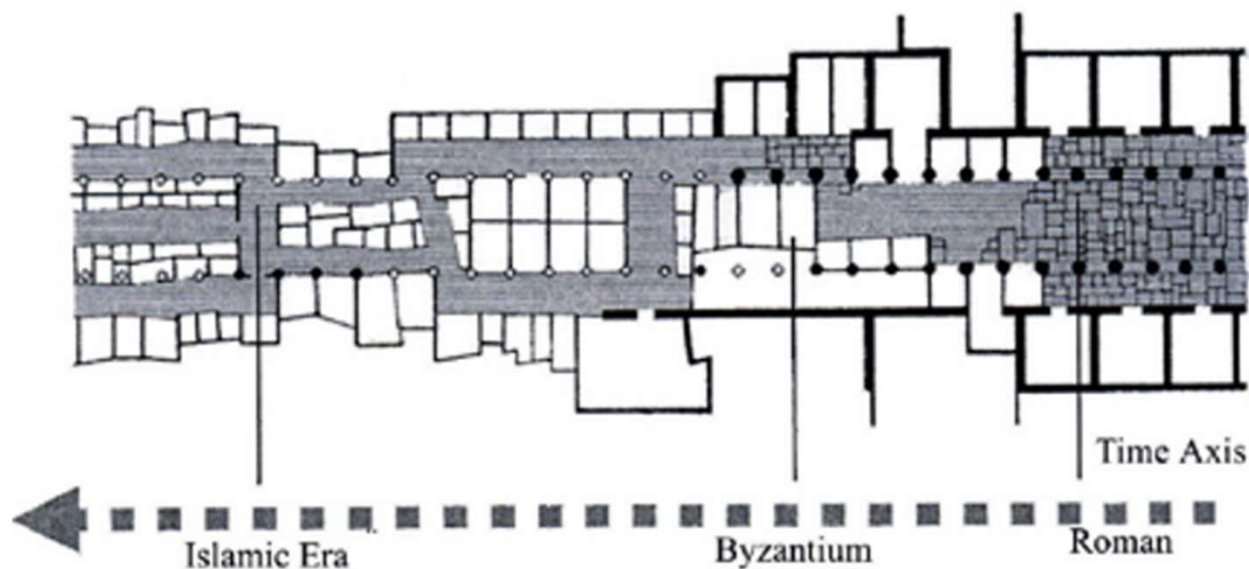
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Kurtuluş Avenue 庫爾圖魯斯大道

- 安塔基亞(Antakya)為哈塔伊省(Hatay)省府所在地，為原鄂圖曼帝國的阿拉伯區域，一戰後屬“法屬敘利亞託管地”（1918-1937）。
- 希律路(Herod Road): 在羅馬時期為9.45m寬、長2962m(2羅馬里)之大柱廊(Great colonnade)，鄂圖曼時期因工商使用佔據道路而變得窄小與蜿蜒。
- 法國人在1926年至1929年間完成地籍調查與比例1/500的地籍規劃，將之拓寬為11m寬，一半的建築物被拆除、另一半經過翻新並重新投入使用，1927年動工、1935年通車。

Fig. 1- 1 The transformation of a colonnaded street in the early Islamic era, as merchants started erecting their booths along the main pedestrian flows, first as temporary, then as permanent structures
(source: Bianca 2000, p.127, original drawing by Sauvaget)



結構系統概要

	傳統構法	20世紀初期建築構法
一樓	石砌外牆 或 木骨之間砌石或砌磚外牆 或 石砌穹隆	石砌外牆
二樓外牆	木骨之間砌石或砌磚	石砌 或 木骨之間砌石或砌磚
內牆	木骨板條灰泥牆	木骨板條灰泥牆
樓板	以木樓板樑向外出挑， 其上架格柵樑再鋪木地板	以I beam 向外出挑， 其上澆置RC樓版
屋頂	木構斜屋頂瓦屋面 (短柱支撐斜屋頂，如日式軸 組之和小屋)	I beam 平屋頂版+木構瓦屋頂 或 木構瓦屋頂



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Hassa, Hatay







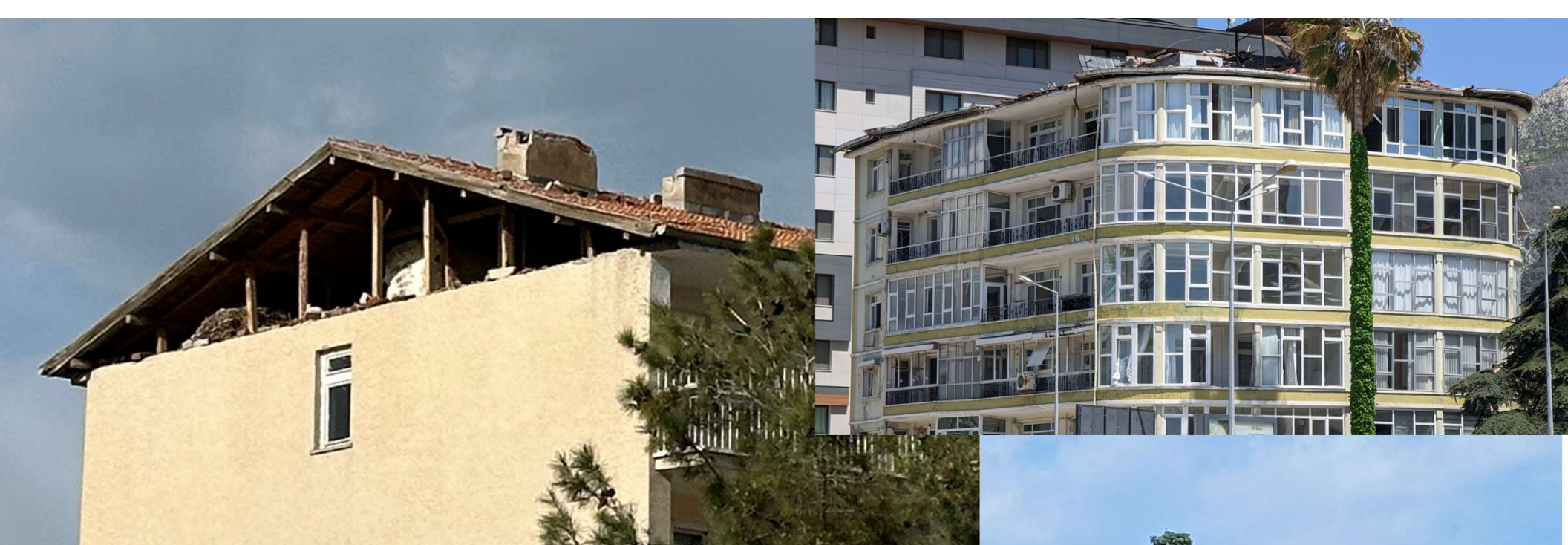
林裕鈞攝





林裕鈞攝





林裕鈞攝







YILDIZLI
KURUMU

TURKCELL
PERA İLETİŞİM

Le Reve
BOUTIQUE HOTEL

ALİ CAN'ın YERİ
KELLE
PAÇA
MUMBAR 40
MERHİME ZORBA
TAVUK
DÖNERİ
214 39
30

林裕鈞攝



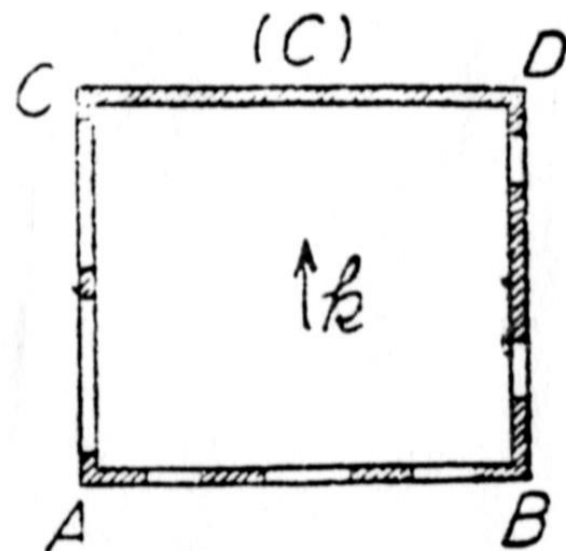
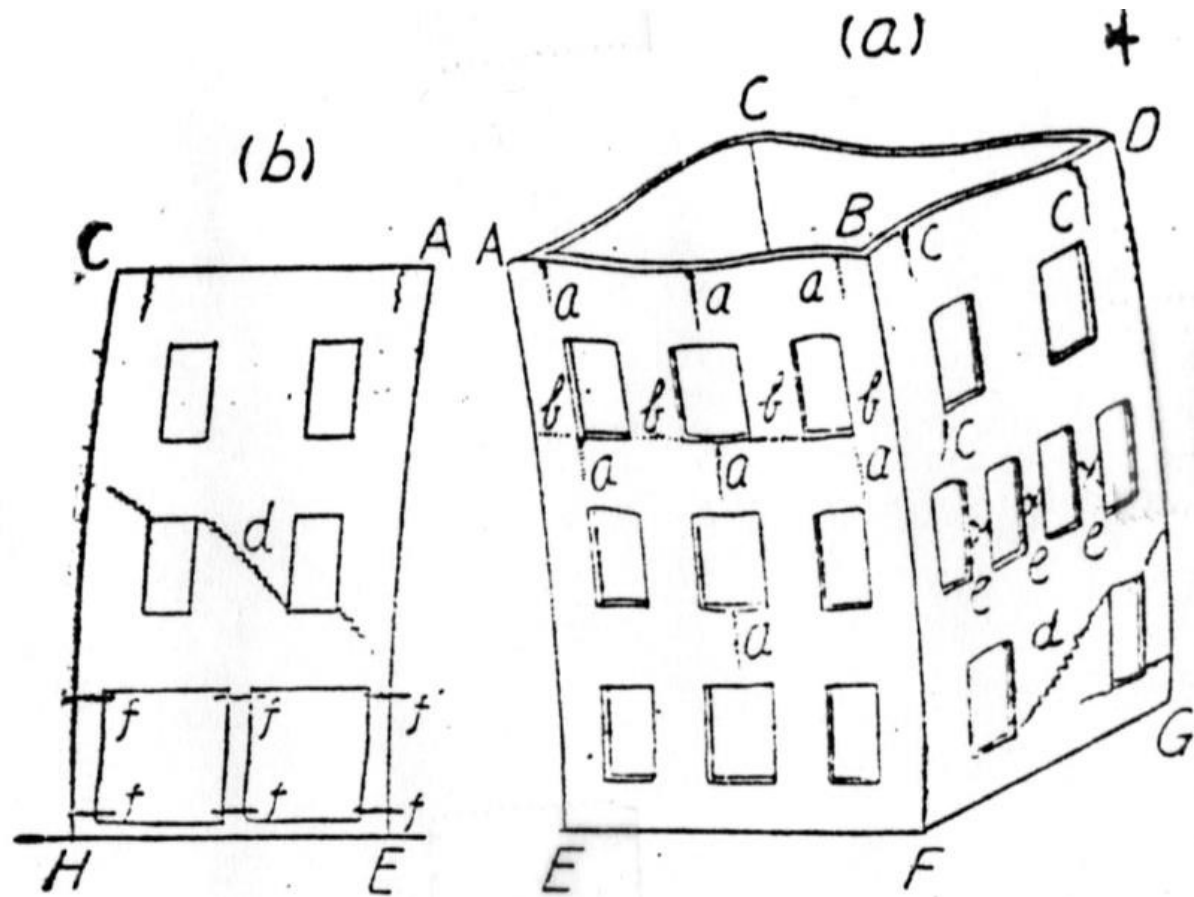
林裕鈞攝

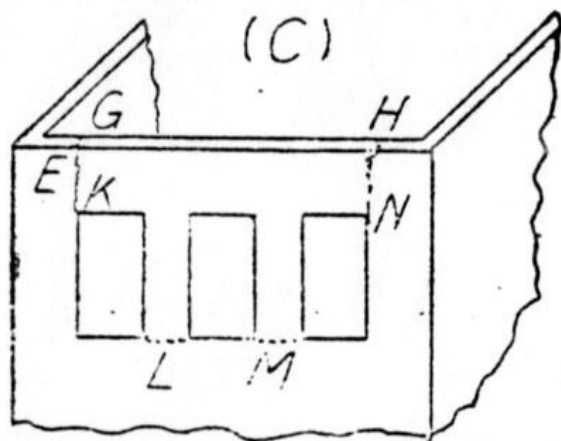
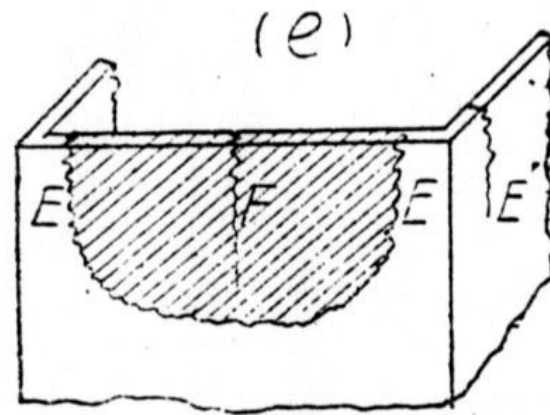
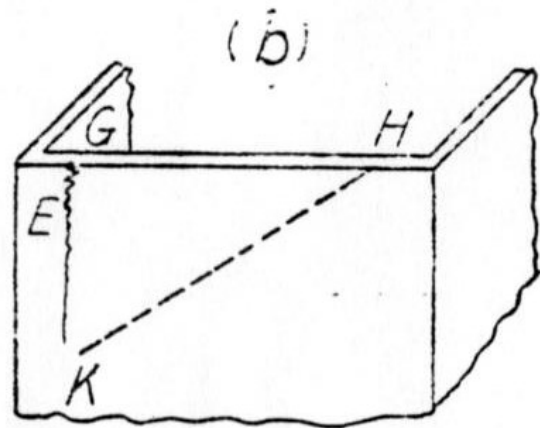
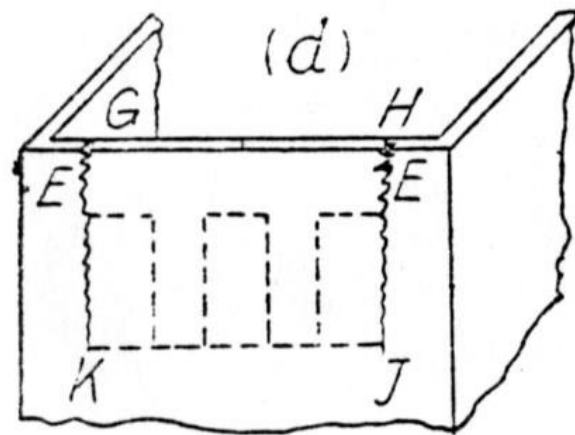
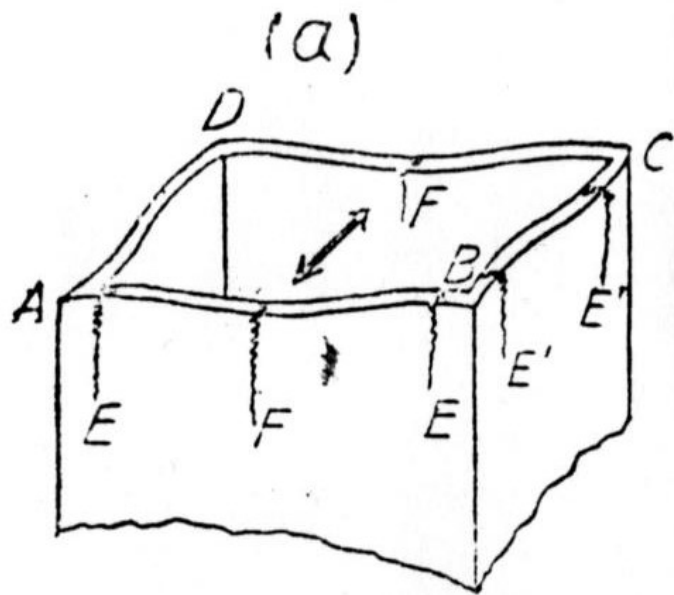
ŞAHİN

ELE

幾個案例

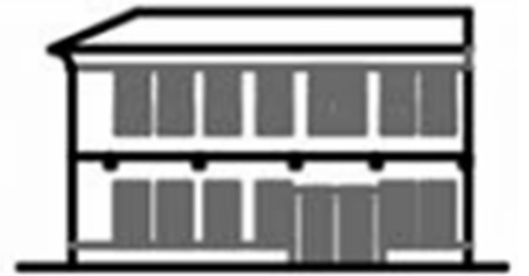




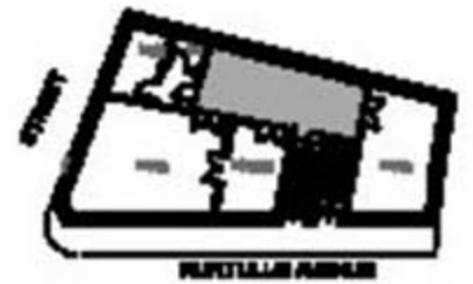


No.15





Meşelik Avenue, No.15, 15A



NO. 15

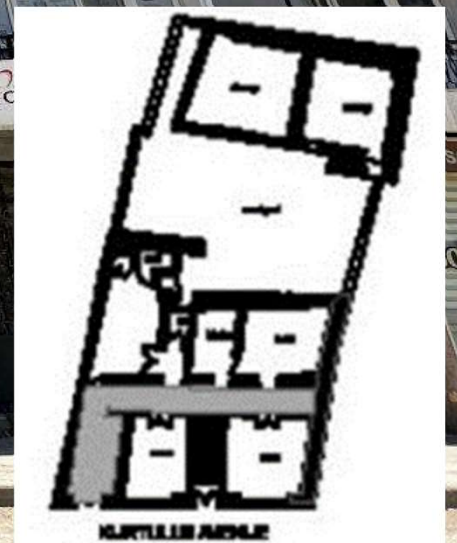
Elif Mihçioğlu Bilgi and Ege Uluca Tümer (2020)

 土耳其文化旅遊部
T.C. KÜLTÜR VE TURİZM
BAKANLIĞI
登錄之文化資產！
TESCİLLİ
KÜLTÜR VARLIĞIDIR!
İZİNSİZ MÜDAHALE
EDİLEMEZ!
未經許可不得干預！

林裕鈞攝

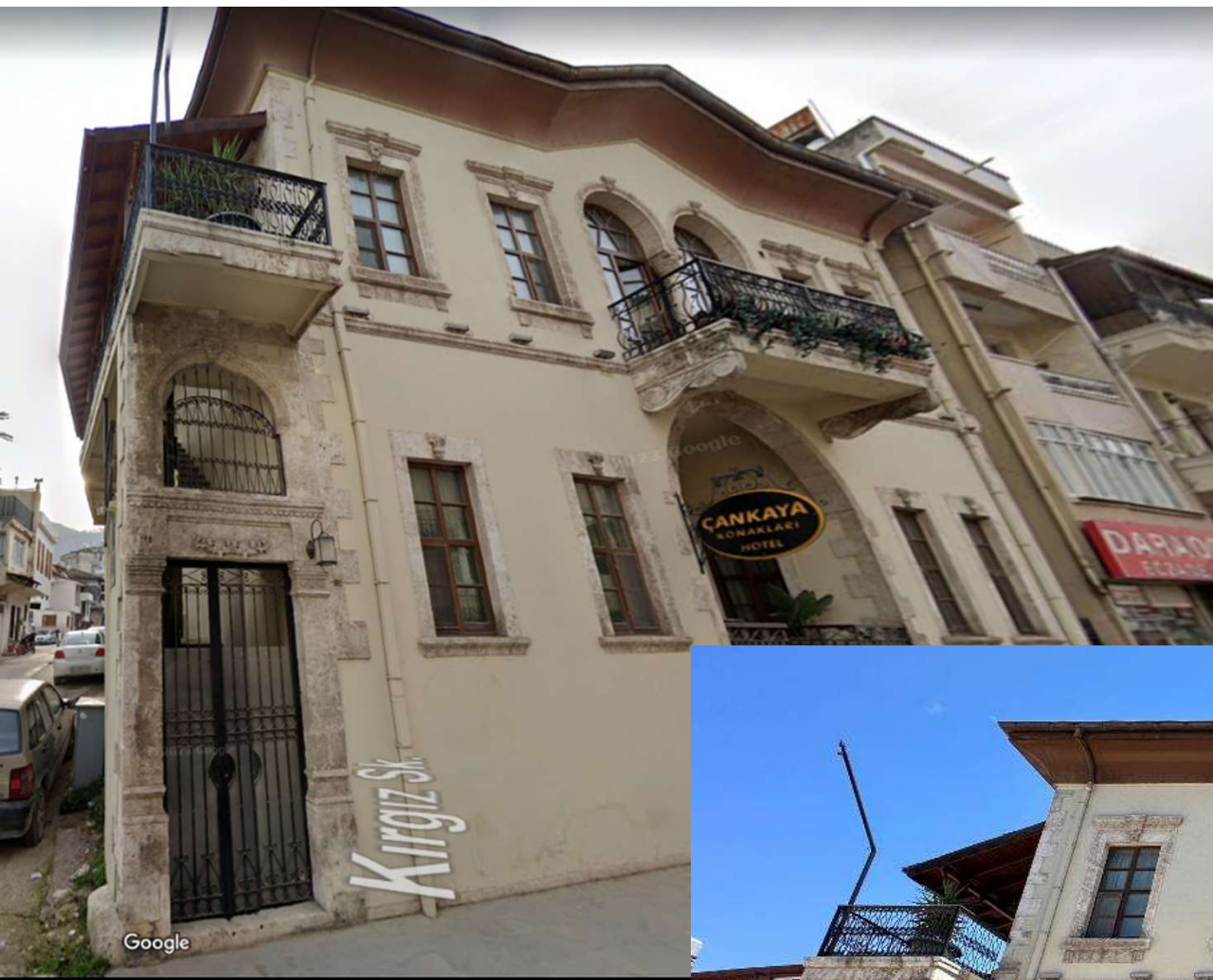


No.14 Cankaya Konaklari Hotel



Elif Mihçioğlu Bilgi and Ege Uluca Tümer (2020)

No.20
Cankaya Konaklari Hotel



Google map



林裕鈞攝



Google map



林裕鈞攝



No.27 (全倒)
三層樓四戶店舖

Google map



Google map



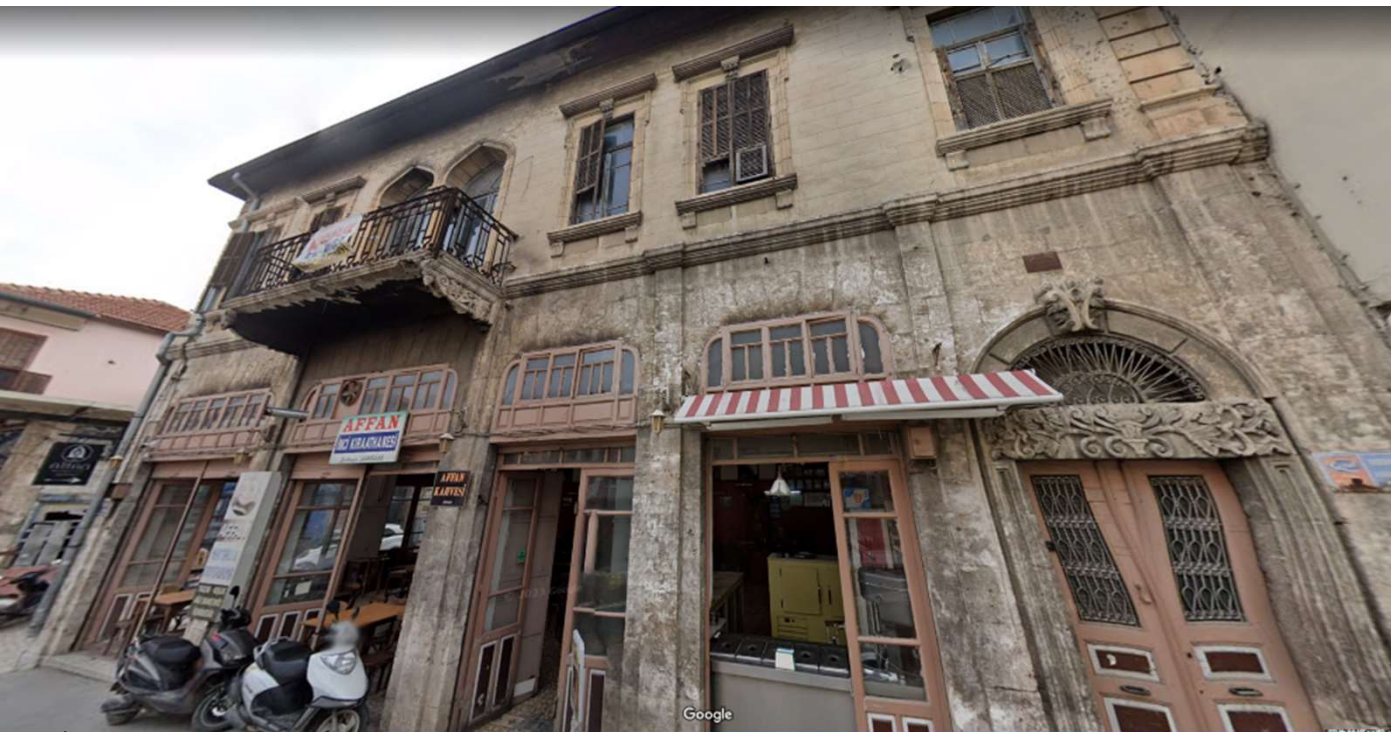
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No.25後方石砌牆面外破壞



No.42 Affan Kahvesi 英勇咖啡店

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Google map

Inci(Affan) Kiraathanesi is on the lower floor of the two-storey stone building, which was built by Fuat Sahilli in 1911 and finished in 1913.
<https://www.affankahvesi.com/>




林裕鈞攝



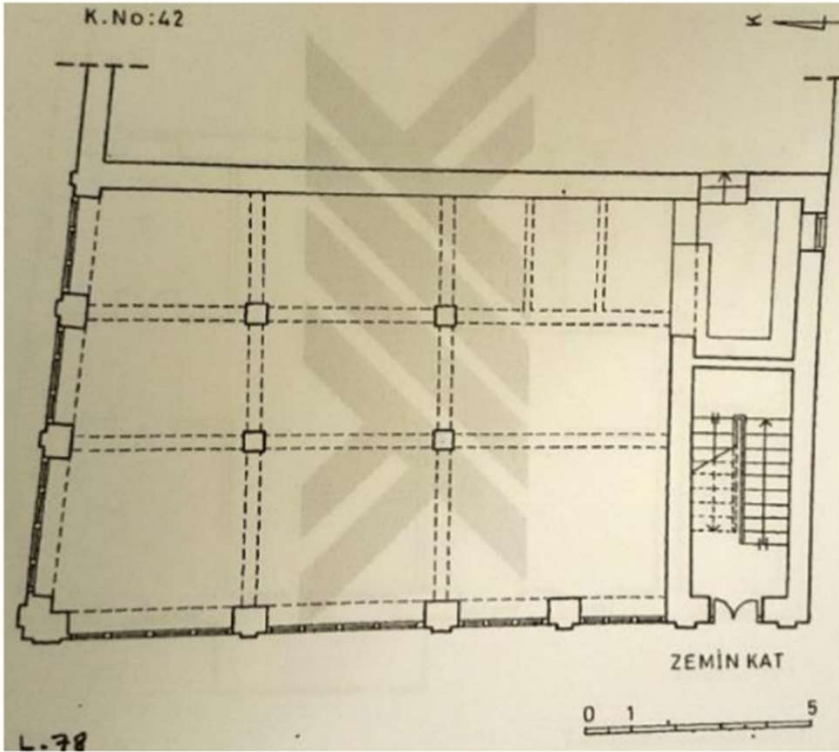
Google map



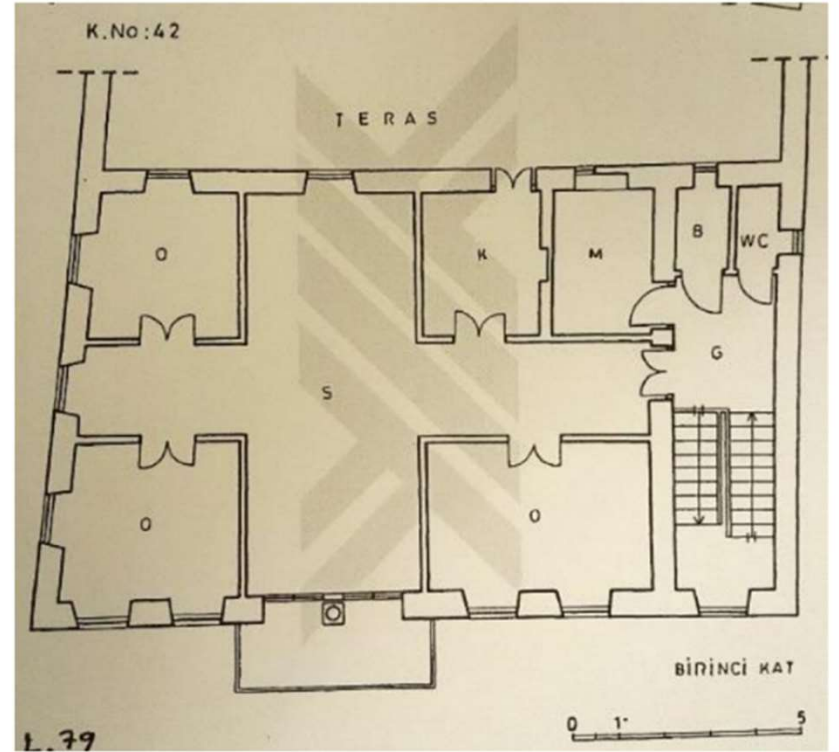
林裕鈞攝

A photograph showing a close-up of a stone building's exterior. The structure is made of large, rectangular stone blocks, some of which are missing or damaged, revealing a rough, uneven interior of smaller stones and debris. The roof is partially collapsed, with wooden beams exposed. In the foreground, there are wooden window frames with multiple panes. The overall scene suggests a state of significant disrepair or destruction.

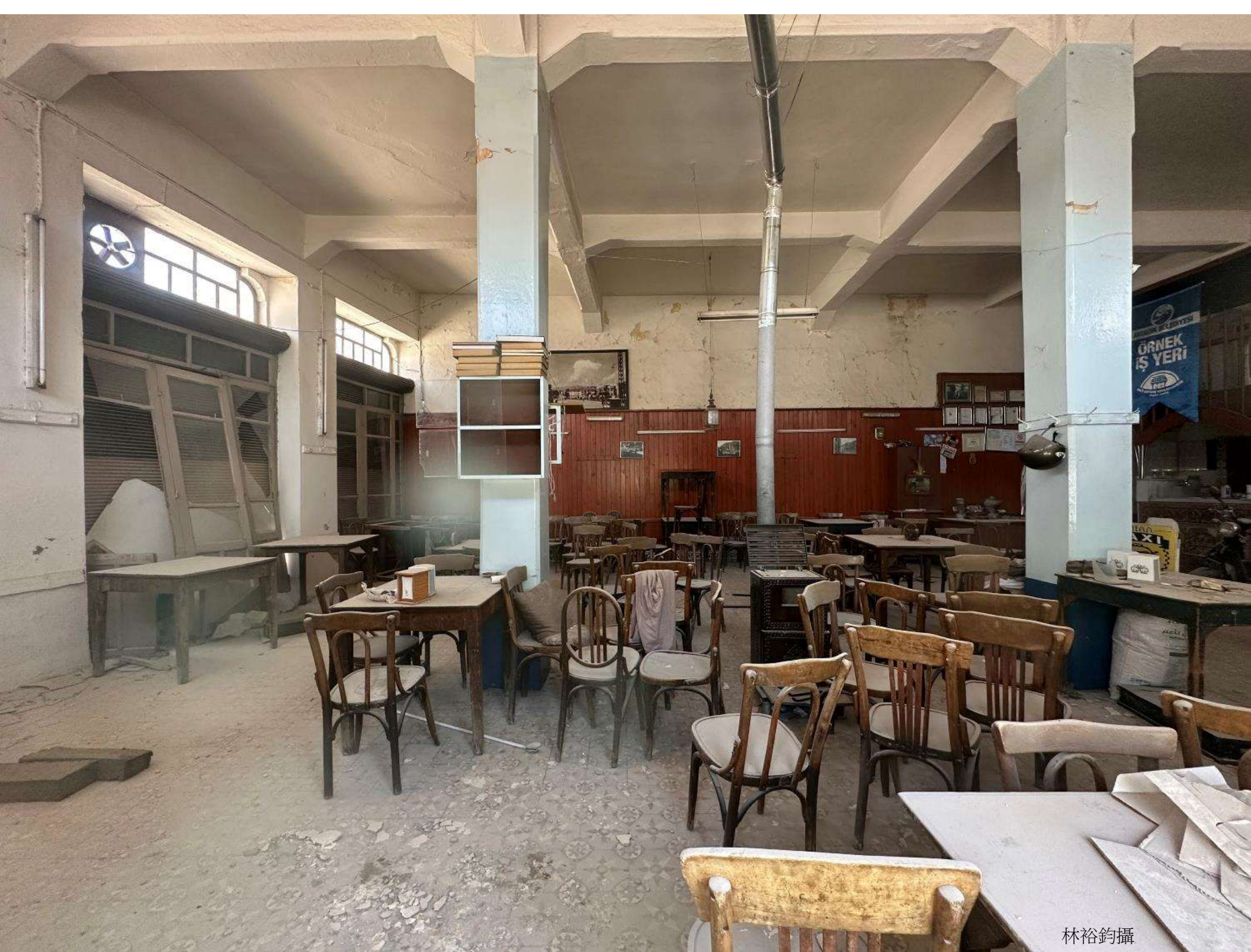
林裕鈞攝



Zemin Kat Planı, (Temiz, 2002:110)

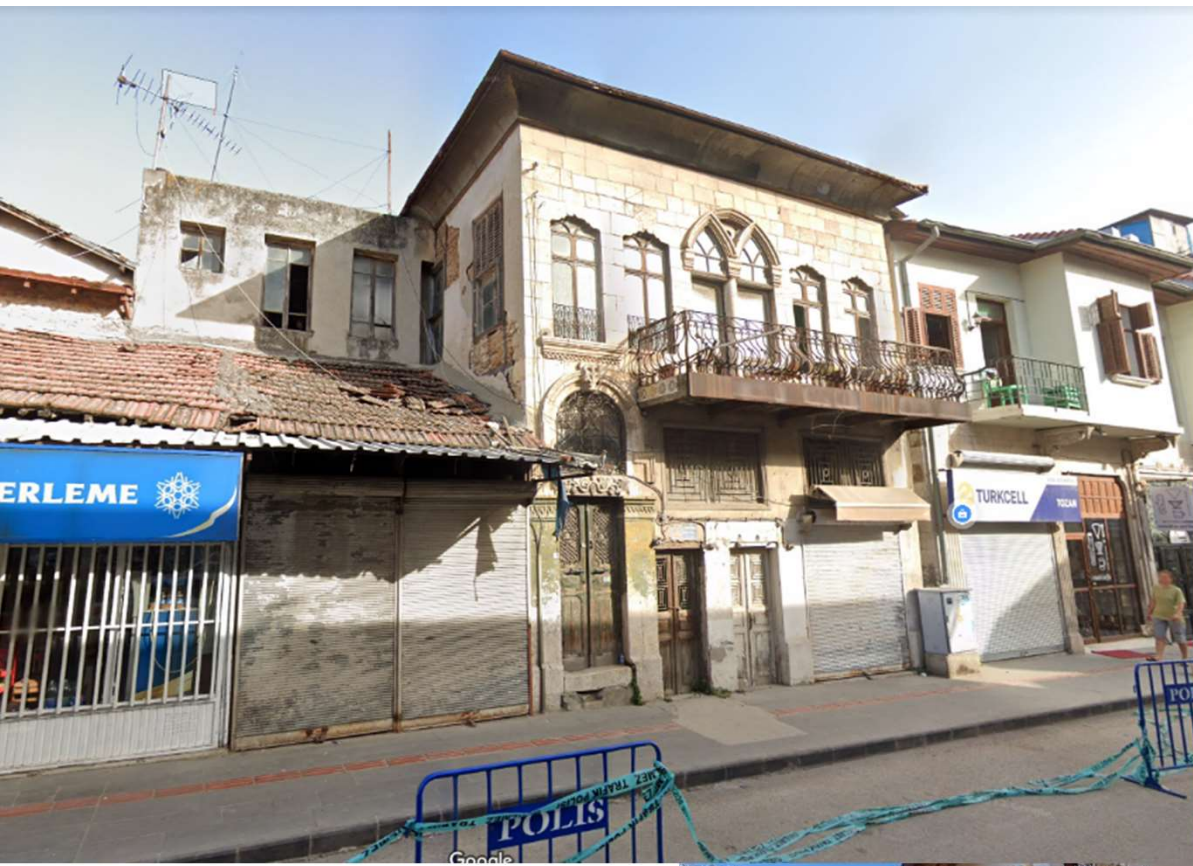


1. Kat Planı, (Temiz, 2002:110)



林裕鈞攝

No.43



Google map



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No.78



Google map



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No.87

Hatay Esnaf ve Sanatkarlar Odalari Birliđi



Google map



林裕鈞攝



Google map



林裕鈞攝

The Liwan Hotel



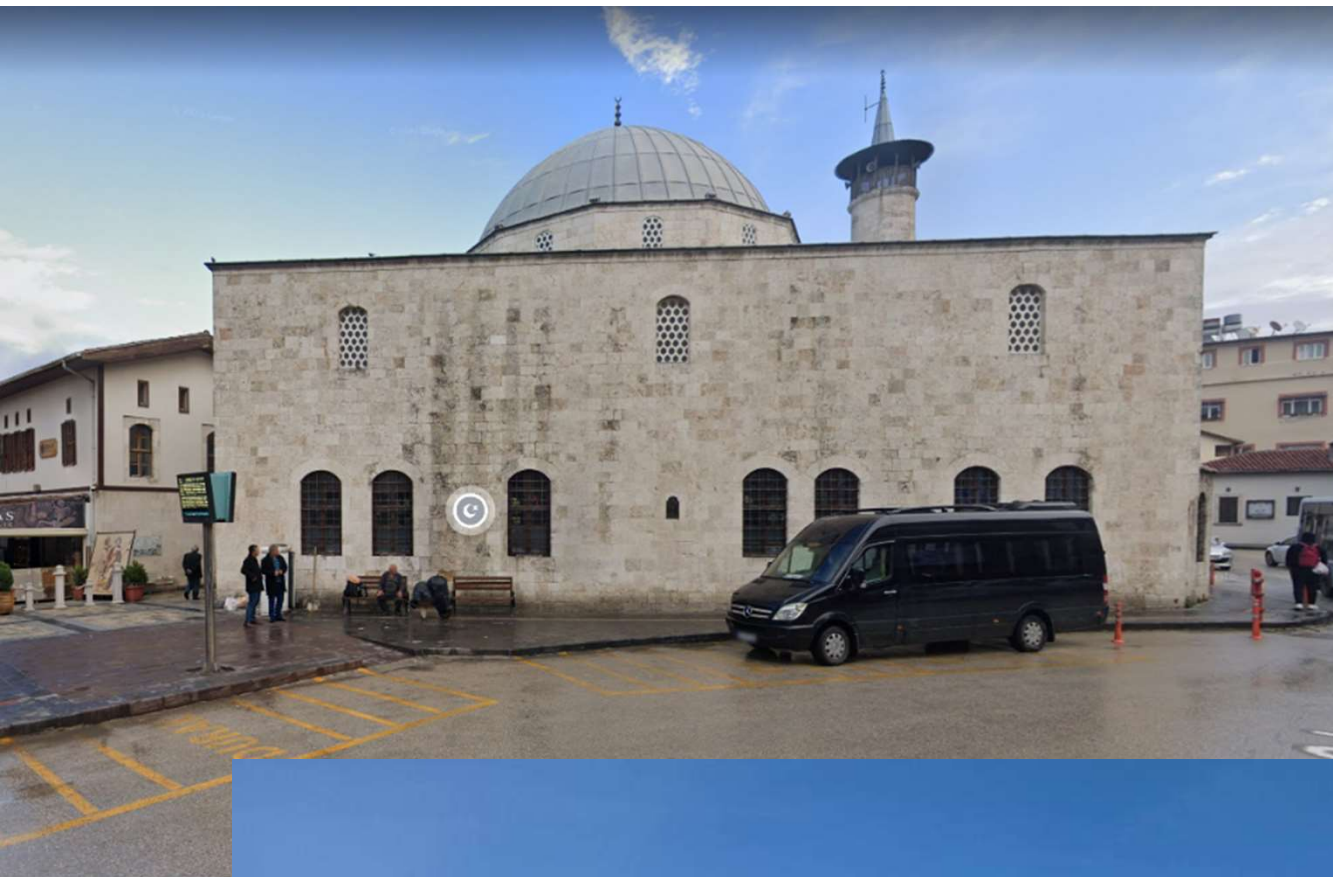
Google map



林裕鈞攝



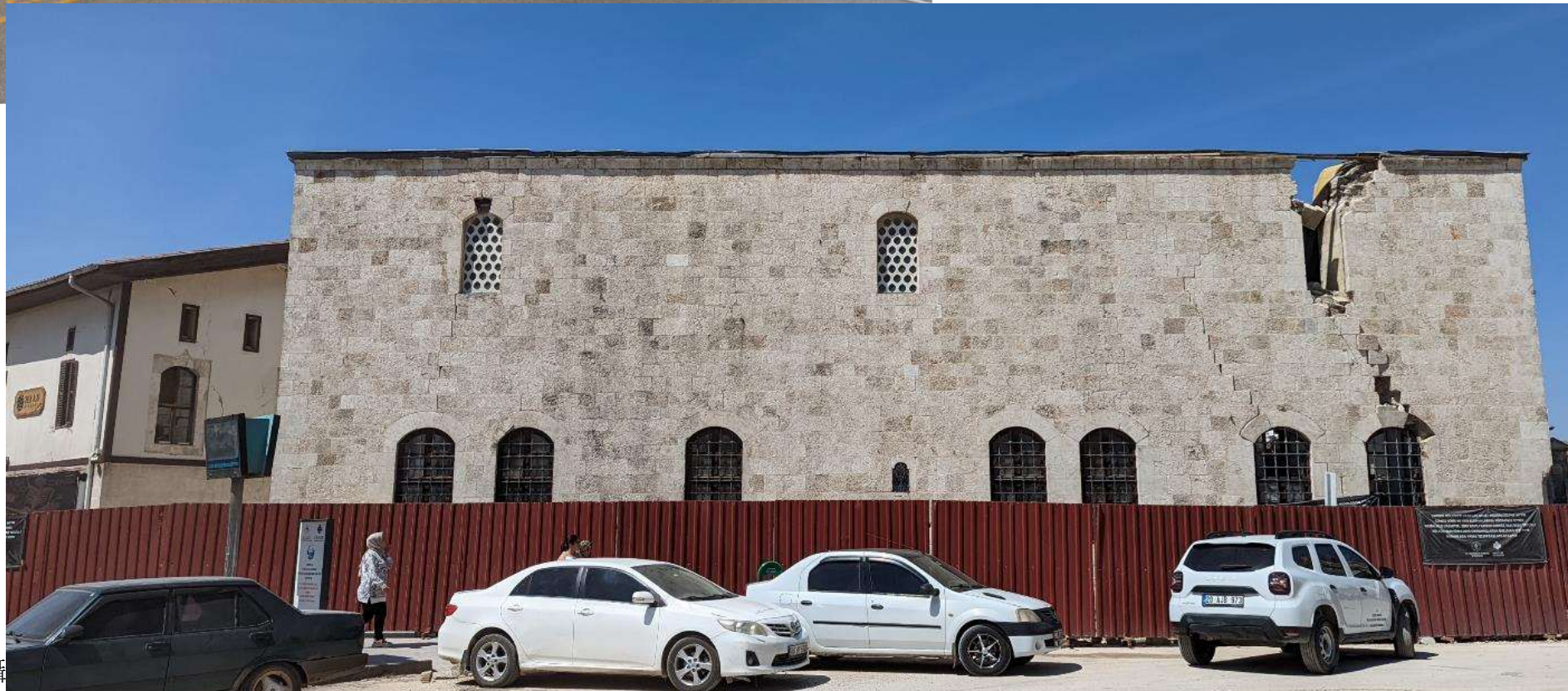




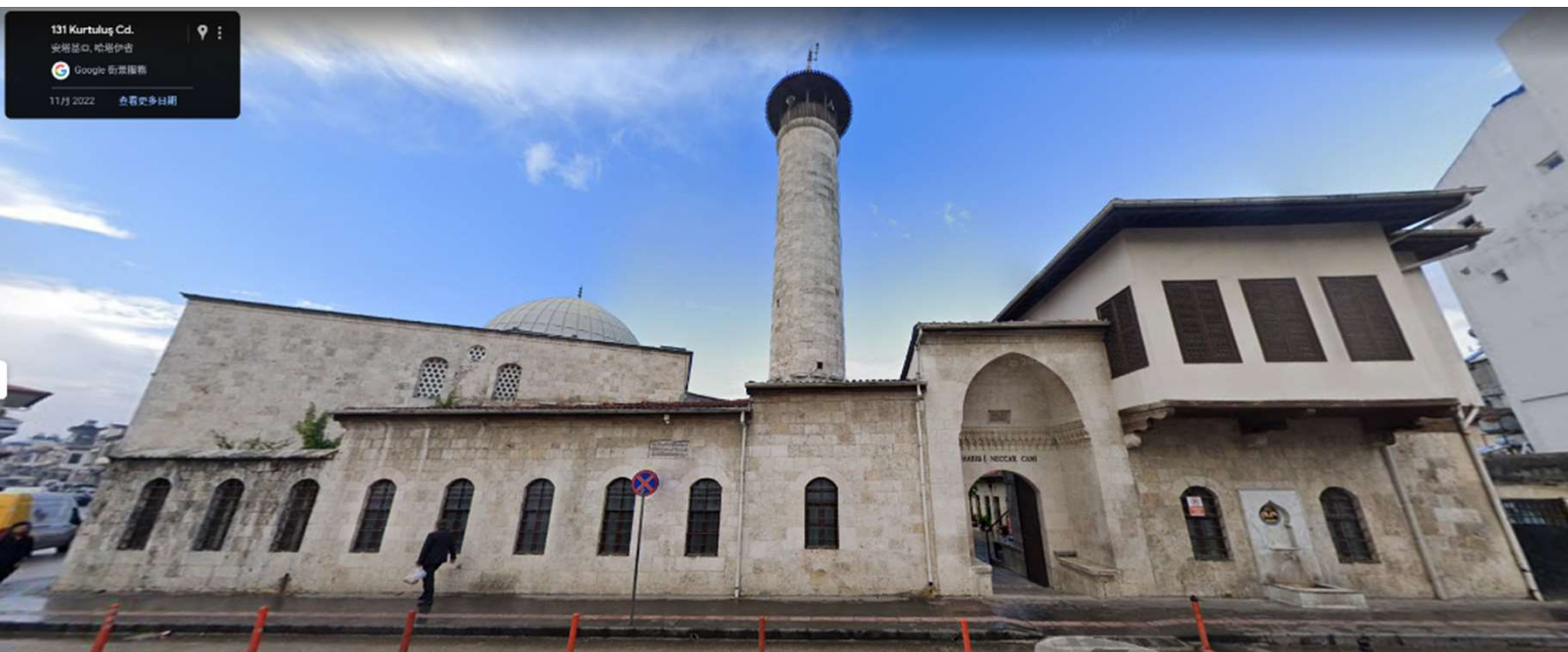
Habib-i Neccar Camii

- 638AD-清真寺，拉希敦哈里發
- 969-教堂，拜占庭帝國
- 1084-清真寺，塞爾柱土耳其
- 1098-教堂，十字軍東征
- 1268-清真寺，馬穆魯克蘇丹國
- 1275-清真寺重建
- 1853-地震震毀，由鄂圖曼帝國重建
(按: 可能為1872年安提阿地震Mw7.0-7.2)
- 此次倒塌之尖塔為17世紀建造

Google map



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Google map



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Google map



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敬請指教